



UNITED STATES PATENT AND TRADEMARK OFFICE

cl
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,956	10/01/2003	Suzanne Zebedee	323-100US D	9260

7590 09/27/2006
Joseph E. Mueth, Esq.
Joseph E. Mueth Law Corporation
8th Floor
225 South Lake Avenue
Pasadena, CA 91101

EXAMINER

LUCAS, ZACHARIAH

ART UNIT PAPER NUMBER

1648

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Sequence Compliance

1. This application contains sequence disclosures that are encompassed by the definitions for nucleotide and/or amino acid sequences set forth in 37 CFR 1.821(a)(1) and (a)(2). However, this application fails to comply with the requirements of 37 CFR 1.821 through 1.825 for the reason(s) set forth below or on the attached Notice To Comply With Requirements For Patent Applications Containing Nucleotide Sequence And/Or Amino Acid Sequence Disclosures.

The submitted CRF and paper copies of the sequence listing do not match. The CRF has 74 sequences, whereas the paper copy shows 76 sequences. See attached: Raw Sequence Listing (showing that 74 sequences are present in the listing), and pages 1 and 41 of paper copy (showing that 76 sequences are present in that copy). Because these two listings do not match, the Applicant has not complied with the sequence rules (esp., 37 CFR 1.821(e)).

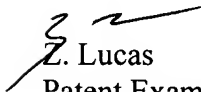
Applicant is given ONE MONTH, or THIRTY DAYS, whichever is longer, from the mailing date of this letter within which to comply with the sequence rules, 37 CFR 1.821 - 1.825. Failure to comply with these requirements will result in ABANDONMENT of the application under 37 CFR 1.821(g). Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). In no case may an applicant extend the period for reply beyond the SIX MONTH statutory period. Direct the reply to the undersigned. Applicant is requested to return a copy of the attached Notice to Comply with the reply.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachariah Lucas whose telephone number is 571-272-0905. The examiner can normally be reached on Monday-Friday, 8 am to 4:30 pm.

Art Unit: 1648

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Z. Lucas
Patent Examiner

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/677, 956B
Source: JFW/6
Date Processed by STIC: 09/14/2006

ENTERED



IFW16

RAW SEQUENCE LISTING

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:14

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw

```

5 <110> APPLICANT: Zebedee, Suzanne
6     Inchauspe, Genevieve
7     Nasoff, Marc S.
8     Prince, Alfred M.
10 <120> TITLE OF INVENTION: METHODS AND SYSTEMS FOR PRODUCING RECOMBINANT
VIRAL ANTIGENS
12 <130> FILE REFERENCE: 323-100USD
14 <140> CURRENT APPLICATION NUMBER: 10/677,956B
15 <141> CURRENT FILING DATE: 2003-10-01
17 <150> PRIOR APPLICATION NUMBER: 08/931,855
18 <151> PRIOR FILING DATE: 1997-09-16
20 <150> PRIOR APPLICATION NUMBER: 08/563,733
21 <151> PRIOR FILING DATE: 1995-11-08
23 <150> PRIOR APPLICATION NUMBER: 08/272,271
24 <151> PRIOR FILING DATE: 1994-07-08
26 <150> PRIOR APPLICATION NUMBER: 07/616,369
27 <151> PRIOR FILING DATE: 1990-11-21
29 <150> PRIOR APPLICATION NUMBER: 07/573,643
30 <151> PRIOR FILING DATE: 1990-08-27
32 <160> NUMBER OF SEQ ID NOS: 74
34 <170> SOFTWARE: PatentIn version 3.3
36 <210> SEQ ID NO: 1
37 <211> LENGTH: 795
38 <212> TYPE: DNA
39 <213> ORGANISM: Human immunodeficiency virus
42 <220> FEATURE:
43 <221> NAME/KEY: CDS
44 <222> LOCATION: (16)..(789)
46 <400> SEQUENCE: 1
47 aggagggttt ttcat atg cca atc gtg cag aac atc cag ggg caa atg gta      51
48      Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val
49      1              5              10
51 cat cag gcc ata tca cct aga act tta aat gca tgg gta aaa gta gta      99
52 His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val
53      15              20              25
55 gaa gag aag gct ttc agc cca gaa gtg ata ccc atg ttt tca gca tta      147
56 Glu Glu Lys Ala Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu
57      30              35              40
59 tca gaa gga gcc acc cca caa gat tta aac acc atg cta aac aca gtg      195
60 Ser Glu Gly Ala Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val
61 45              50              55              60
63 ggg gga cat caa gca gcc atg caa atg tta aaa gag acc atc aat gag      243
64 Gly Gly His Gln Ala Ala Met Gln Met Leu Lys Glu Thr Ile Asn Glu
65      65              70              75

```

RAW SEQUENCE LISTING

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:14

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw

```

67 gaa gct gca gaa tgg gat aga gtg cat cca gtg cat gca ggg cct att      291
68 Glu Ala Ala Glu Trp Asp Arg Val His Pro Val His Ala Gly Pro Ile
69      80      85      90
71 gca cca ggc cag atg aga gaa cca agg gga agt gac ata gca gga act      339
72 Ala Pro Gly Gln Met Arg Glu Pro Arg Gly Ser Asp Ile Ala Gly Thr
73      95      100      105
75 act agt acc ctt cag gaa caa ata gga tgg atg aca aat aat cca cct      387
76 Thr Ser Thr Leu Gln Glu Gln Ile Gly Trp Met Thr Asn Asn Pro Pro
77      110      115      120
79 atc cca gta gga gaa att tat aaa aga tgg ata atc ctg gga tta aat      435
80 Ile Pro Val Gly Glu Ile Tyr Lys Arg Trp Ile Ile Leu Gly Leu Asn
81 125      130      135      140
83 aaa ata gta aga atg tat agc cct acc agc att ctg gac ata aga caa      483
84 Lys Ile Val Arg Met Tyr Ser Pro Thr Ser Ile Leu Asp Ile Arg Gln
85      145      150      155
87 gga cca aag gaa ccc ttt aga gac tat gta gac cgg ttc tat aaa act      531
88 Gly Pro Lys Glu Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Thr
89      160      165      170
91 cta aga gcc gag caa gct tca cag gag gta aaa aat tgg atg aca gaa      579
92 Leu Arg Ala Glu Gln Ala Ser Gln Glu Val Lys Asn Trp Met Thr Glu
93      175      180      185
95 acc ttg tgc caa aat gcg aac cca gat tgt aag act att tta aaa      627
96 Thr Leu Leu Val Gln Asn Ala Asn Pro Asp Cys Lys Thr Ile Leu Lys
97      190      195      200
99 gca ttg gga cca gcg gct aca cta gaa gaa atg atg aca gca tgt cag      675
100 Ala Leu Gly Pro Ala Ala Thr Leu Glu Glu Met Met Thr Ala Cys Gln
101 205      210      215      220
103 gga gta gga gga ccc aaa aat caa caa tta tta tcc tta tgg ggg tgt      723
104 Gly Val Gly Gly Pro Lys Asn Gln Gln Leu Leu Ser Leu Trp Gly Cys
105      225      230      235
107 aaa ggg aaa ctt gtt tgt tat act tcc gtt aaa tgg aat gga ccc ggc      771
108 Lys Gly Lys Leu Val Cys Tyr Thr Ser Val Lys Trp Asn Gly Pro Gly
109      240      245      250
111 cat aag gca aga gtt ttg taataa      795
112 His Lys Ala Arg Val Leu
113      255
116 <210> SEQ ID NO: 2
117 <211> LENGTH: 258
118 <212> TYPE: PRT
119 <213> ORGANISM: Human immunodeficiency virus
121 <400> SEQUENCE: 2
123 Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val His Gln Ala Ile
124 1      5      10      15
127 Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val Glu Glu Lys Ala
128      20      25      30
131 Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu Ser Glu Gly Ala
132      35      40      45
135 Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val Gly Gly His Gln
136      50      55      60

```

RAW SEQUENCE LISTING

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:14

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw

```

139 Ala Ala Met Gln Met Leu Lys Glu Thr Ile Asn Glu Glu Ala Ala Glu
140 65              70              75              80
143 Trp Asp Arg Val His Pro Val His Ala Gly Pro Ile Ala Pro Gly Gln
144              85              90              95
147 Met Arg Glu Pro Arg Gly Ser Asp Ile Ala Gly Thr Thr Ser Thr Leu
148              100             105             110
151 Gln Glu Gln Ile Gly Trp Met Thr Asn Asn Pro Pro Ile Pro Val Gly
152              115             120             125
155 Glu Ile Tyr Lys Arg Trp Ile Ile Leu Gly Leu Asn Lys Ile Val Arg
156              130             135             140
159 Met Tyr Ser Pro Thr Ser Ile Leu Asp Ile Arg Gln Gly Pro Lys Glu
160 145             150             155             160
163 Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Thr Leu Arg Ala Glu
164              165             170             175
167 Gln Ala Ser Gln Glu Val Lys Asn Trp Met Thr Glu Thr Leu Leu Val
168              180             185             190
171 Gln Asn Ala Asn Pro Asp Cys Lys Thr Ile Leu Lys Ala Leu Gly Pro
172              195             200             205
175 Ala Ala Thr Leu Glu Glu Met Met Thr Ala Cys Gln Gly Val Gly Gly
176              210             215             220
179 Pro Lys Asn Gln Gln Leu Leu Ser Leu Trp Gly Cys Lys Gly Lys Leu
180 225             230             235             240
183 Val Cys Tyr Thr Ser Val Lys Trp Asn Gly Pro Gly His Lys Ala Arg
184              245             250             255
187 Val Leu
191 <210> SEQ ID NO: 3
192 <211> LENGTH: 795
193 <212> TYPE: DNA
194 <213> ORGANISM: Human immunodeficiency virus
197 <220> FEATURE:
198 <221> NAME/KEY: CDS
199 <222> LOCATION: (16)..(789)
201 <400> SEQUENCE: 3
202 aggagggttt ttcat atg cca atc gtg cag aac atc cag ggg caa atg gta      51
203              Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val
204              1              5              10
206 cat cag gcc ata tca cct aga act tta aat gca tgg gta aaa gta gta      99
207 His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val
208              15              20              25
210 gaa gag aag gct ttc agc cca gaa gtg ata ccc atg ttt tca gca tta      147
211 Glu Glu Lys Ala Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu
212              30              35              40
214 tca gaa gga gcc acc cca caa gat tta aac acc atg cta aac aca gtg      195
215 Ser Glu Gly Ala Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val
216 45              50              55              60
218 ggg gga cat caa gca gcc atg caa atg tta aaa gag acc atc aat gag      243
219 Gly Gly His Gln Ala Ala Met Gln Met Leu Lys Glu Thr Ile Asn Glu
220              65              70              75
222 gaa gct gca gaa tgg gat aga gtg cat cca gtg cat gca ggg cct att      291

```

RAW SEQUENCE LISTING

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:14

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw

```

223 Glu Ala Ala Glu Trp Asp Arg Val His Pro Val His Ala Gly Pro Ile
224      80      85      90
226 gca cca ggc cag atg aga gaa cca agg gga agt gac ata gca gga act 339
227 Ala Pro Gly Gln Met Arg Glu Pro Arg Gly Ser Asp Ile Ala Gly Thr
228      95      100      105
230 act agt acc ctt cag gaa caa ata gga tgg atg aca aat aat cca cct 387
231 Thr Ser Thr Leu Gln Glu Ile Gly Trp Met Thr Asn Asn Pro Pro
232      110      115      120
234 atc cca gta gga gaa att tat aaa aga tgg ata atc ctg gga tta aat 435
235 Ile Pro Val Gly Glu Ile Tyr Lys Arg Trp Ile Ile Leu Gly Leu Asn
236 125      130      135      140
238 aaa ata gta aga atg tat agc cct acc agc att ctg gac ata aga caa 483
239 Lys Ile Val Arg Met Tyr Ser Pro Thr Ser Ile Leu Asp Ile Arg Gln
240      145      150      155
242 gga cca aag gaa ccc ttt aga gac tat gta gac cgg ttc tat aaa act 531
243 Gly Pro Lys Glu Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Thr
244      160      165      170
246 cta aga gcc gag caa gct tca cag gag gta aaa aat tgg atg aca gaa 579
247 Leu Arg Ala Glu Gln Ala Ser Gln Glu Val Lys Asn Trp Met Thr Glu
248      175      180      185
250 acc ttg ttg gtc caa aat gcg aac cca gat tgt aag act att tta aaa 627
251 Thr Leu Leu Val Gln Asn Ala Asn Pro Asp Cys Lys Thr Ile Leu Lys
252      190      195      200
254 gca ttg gga cca gcg gct aca cta gaa gaa atg atg aca gca tgt cag 675
255 Ala Leu Gly Pro Ala Ala Thr Leu Glu Glu Met Met Thr Ala Cys Gln
256 205      210      215      220
258 gga gta gga gga ccc aaa aat caa caa aga tta aat tta tgg ggg tgt 723
259 Gly Val Gly Gly Pro Lys Asn Gln Gln Arg Leu Asn Leu Trp Gly Cys
260      225      230      235
262 aaa ggg aaa ctt att tgt tat act tcc gtt aaa tgg aat gga ccc ggc 771
263 Lys Gly Lys Leu Ile Cys Tyr Thr Ser Val Lys Trp Asn Gly Pro Gly
264      240      245      250
266 cat aag gca aga gtt ttg taataa 795
267 His Lys Ala Arg Val Leu
268      255
271 <210> SEQ ID NO: 4
272 <211> LENGTH: 258
273 <212> TYPE: PRT
274 <213> ORGANISM: Human immunodeficiency virus
276 <400> SEQUENCE: 4
278 Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val His Gln Ala Ile
279 1      5      10      15
282 Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val Glu Glu Lys Ala
283      20      25      30
286 Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu Ser Glu Gly Ala
287      35      40      45
290 Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val Gly Gly His Gln
291      50      55      60
294 Ala Ala Met Gln Met Leu Lys Glu Thr Ile Asn Glu Glu Ala Ala Glu

```


RAW SEQUENCE LISTING

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:14

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw

```

295 65              70              75              80
298 Trp Asp Arg Val His Pro Val His Ala Gly Pro Ile Ala Pro Gly Gln
299              85              90              95
302 Met Arg Glu Pro Arg Gly Ser Asp Ile Ala Gly Thr Thr Ser Thr Leu
303              100             105             110
306 Gln Glu Gln Ile Gly Trp Met Thr Asn Asn Pro Pro Ile Pro Val Gly
307              115             120             125
310 Glu Ile Tyr Lys Arg Trp Ile Ile Leu Gly Leu Asn Lys Ile Val Arg
311              130             135             140
314 Met Tyr Ser Pro Thr Ser Ile Leu Asp Ile Arg Gln Gly Pro Lys Glu
315 145             150             155             160
318 Pro Phe Arg Asp Tyr Val Asp Arg Phe Tyr Lys Thr Leu Arg Ala Glu
319              165             170             175
322 Gln Ala Ser Gln Glu Val Lys Asn Trp Met Thr Glu Thr Leu Leu Val
323              180             185             190
326 Gln Asn Ala Asn Pro Asp Cys Lys Thr Ile Leu Lys Ala Leu Gly Pro
327              195             200             205
330 Ala Ala Thr Leu Glu Glu Met Met Thr Ala Cys Gln Gly Val Gly Gly
331              210             215             220
334 Pro Lys Asn Gln Gln Arg Leu Asn Leu Trp Gly Cys Lys Gly Lys Leu
335 225             230             235             240
338 Ile Cys Tyr Thr Ser Val Lys Trp Asn Gly Pro Gly His Lys Ala Arg
339              245             250             255
342 Val Leu
346 <210> SEQ ID NO: 5
347 <211> LENGTH: 795
348 <212> TYPE: DNA
349 <213> ORGANISM: Human immunodeficiency virus
352 <220> FEATURE:
353 <221> NAME/KEY: CDS
354 <222> LOCATION: (16)..(789)
356 <400> SEQUENCE: 5
357 aggagggttt ttcat atg cca atc gtg cag aac atc cag ggg caa atg gta      51
358              Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val
359              1              5              10
361 cat cag gcc ata tca cct aga act tta aat gca tgg gta aaa gta gta      99
362 His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val
363              15              20              25
365 gaa gag aag gct ttc agc cca gaa gtg ata ccc atg ttt tca gca tta      147
366 Glu Glu Lys Ala Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu
367              30              35              40
369 tca gaa gga gcc acc cca caa gat tta aac acc atg cta aac aca gtg      195
370 Ser Glu Gly Ala Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val
371 45              50              55              60
373 ggg gga cat caa gca gcc atg caa atg tta aaa gag acc atc aat gag      243
374 Gly Gly His Gln Ala Ala Met Gln Met Leu Lys Glu Thr Ile Asn Glu
375              65              70              75
377 gaa gct gca gaa tgg gat aga gtg cat cca gtg cat gca ggg cct att      291
378 Glu Ala Ala Glu Trp Asp Arg Val His Pro Val His Ala Gly Pro Ile

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 09/14/2006
PATENT APPLICATION: US/10/677,956B TIME: 15:32:15

Input Set : E:\16988.ST25.txt
Output Set: N:\CRF4\09142006\J677956B.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:19,20,21,22,23,24,25,26,27,28,29,31,32,33,34,35,36,37,38,39,40,41,42,43

Seq#:44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67

Seq#:68,69,70,71,73,74

VERIFICATION SUMMARY

DATE: 09/14/2006

PATENT APPLICATION: US/10/677,956B

TIME: 15:32:15

Input Set : E:\16988.ST25.txt

Output Set: N:\CRF4\09142006\J677956B.raw



16988 ST25.txt

SEQUENCE LISTING

<110> Zebedee, Suzanne
Inchauspe, Genevieve
Nasoff, Marc S.
Prince, Alfred M.

<120> METHODS AND SYSTEMS FOR PRODUCING RECOMBINANT VIRAL ANTIGENS

<130> 323-100USD

<140> 10/677,956

<141> 2003-10-01

<150> 08/931,855

<151> 1997-09-16

<150> 08/563,733

<151> 1995-11-08

<150> 08/272,271

<151> 1994-07-08

<150> 07/616,369

<151> 1990-11-21

<150> 07/573,643

<151> 1990-08-27

<160> 76

<170> PatentIn version 3.3

<210> 1

<211> 795

<212> DNA

<213> Human immunodeficiency virus

<220>

<221> CDS

<222> (16)..(789)

<400> 1

aggagggttt ttcatt atg cca atc gtg cag aac atc cag ggg caa atg gta 51
Met Pro Ile Val Gln Asn Ile Gln Gly Gln Met Val
1 5 10

cat cag gcc ata tca cct aga act tta aat gca tgg gta aaa gta gta 99
His Gln Ala Ile Ser Pro Arg Thr Leu Asn Ala Trp Val Lys Val Val
15 20 25

gaa gag aag gct ttc agc cca gaa gtg ata ccc atg ttt tca gca tta 147
Glu Gln Lys Ala Phe Ser Pro Glu Val Ile Pro Met Phe Ser Ala Leu
30 35 40

tca gaa gga gcc acc cca caa gat tta aac acc atg cta aac aca gtg 195
Ser Glu Gly Ala Thr Pro Gln Asp Leu Asn Thr Met Leu Asn Thr Val
45 50 55 60

ggg gga cat caa gca gcc atg caa atg tta aaa gag acc atc aat gag 243
Page 1

16988 ST25.txt

<210> 76
 <211> 252
 <212> PRT
 <213> Artificial

<220>
 <223> Synthetic Construct

<400> 76

Met Ser Pro Ile Leu Gly Tyr Trp Lys Ile Lys Gly Leu Val Gln Pro
 1 5 10 15
 Thr Arg Leu Leu Leu Glu Tyr Leu Glu Glu Lys Tyr Glu Glu His Leu
 20 25 30
 Tyr Glu Arg Asp Glu Gly Asp Lys Trp Arg Asn Lys Lys Phe Glu Leu
 35 40 45
 Gly Leu Glu Phe Pro Asn Leu Pro Tyr Tyr Ile Asp Gly Asp Val Lys
 50 55 60
 Leu Thr Gln Ser Met Ala Ile Ile Arg Tyr Ile Ala Asp Lys His Asn
 65 70 75 80
 Met Leu Gly Gly Cys Pro Lys Glu Arg Ala Glu Ile Ser Met Leu Glu
 85 90 95
 Gly Ala Val Leu Asp Ile Arg Tyr Gly Val Ser Arg Ile Ala Tyr Ser
 100 105 110
 Lys Asp Phe Glu Thr Leu Lys Val Asp Phe Leu Ser Lys Leu Pro Glu
 115 120 125
 Met Leu Lys Met Phe Glu Asp Arg Leu Cys His Lys Thr Tyr Leu Asn
 130 135 140
 Gly Asp His Val Thr His Pro Asp Phe Met Leu Tyr Asp Ala Leu Asp
 145 150 155 160
 Val Val Leu Tyr Met Asp Pro Met Cys Leu Asp Ala Phe Pro Lys Leu
 165 170 175
 Val Cys Phe Lys Lys Arg Ile Glu Ala Ile Pro Gln Ile Asp Lys Tyr
 180 185 190
 Leu Lys Ser Ser Lys Tyr Ile Ala Trp Pro Leu Gln Gly Trp Gln Ala
 195 200 205